

but from which many fresh specimens were collected, lies some twelve miles to the northward in West Dover at an altitude of 2300 ft. Here also, according to report, the white form occurs commonly, and the blue rarely, in sphagnum.

A careful examination of a series of fresh and dried material reveals no distinctive characters, other than color of corolla. Each dried specimen of the white form in my possession is distinguishable at once from the blue form by the conspicuous green tips of the corolla lobes. A random series of blue and white specimens, duly separated by sheets and marked for identification, were dried in a press between ventilators, with insufficient external heat. Some of the corollas of each color form, but none of the leaves, turned brown in drying. In no case did the dried corollas of the blue form, whether blue or brown, show green tips. In every instance the tips of the corolla lobes of the white form retained their green color. Unfortunately, this character proves to be "no good." An examination of all pertinent material in the Gray and Club herbaria discloses an occasional sheet of typical *G. linearis* with green-tipped corolla lobes, as for instance a beautifully preserved specimen from Shirley, Mass., August 28, 1916, *J. R. Churchill*. Furthermore, the type specimen of forma *Blanchardii* shows the merest trace of green on one corolla. On the other hand, the only other collection of the white-flowered form (Stratton Plateau, Vt., August 6-10, 1900, *W. W. Eggleston*, no. 2057) to be found in either herbarium shows mostly green-tipped corollas, otherwise browned with age. However, this latter is indistinguishable from occasional sheets of typical blue *G. linearis* likewise discolored.

If subsequent experiment shows that seedlings of white gentians from this bog produce white flowers under cultivation and that no reversion to blue occurs when white-flowered plants are transplanted from sphagnum to normally acid soil, it would appear desirable either to treat forma *Blanchardii* as a true albino and base a second color form on this new material, or else give forma *Blanchardii* more serious consideration than is usually accorded to mere albinism.

CAMBRIDGE, MASSACHUSETTS.

A GLABROUS VARIETY OF ASTER CONCOLOR.—*Aster concolor* L. is ordinarily one of the most distinct and easily recognizable of the North American species of *Aster*, with its virgate stems thickly clothed with small, entire, oblong to elliptic or linear leaves, gradually

reduced above and usually canescent, and its normally racemiform panicles of rather small violet heads with silky-canescens involucre. The common Florida form has comparatively large heads and a longer involucre than specimens from other localities, and the phyllaries are usually notably broad and with conspicuous herbaceous tips; forms occur in Florida, however, with the phyllaries of the equally long involucre decidedly narrow and loose, or almost squarrose. The occurrence of similar specimens with long involucre and broad phyllaries at other points in the range of the species (such as *Mackenzie* 3937, from Keasbey, Middlesex Co., New Jersey, and *Miss E. C. Clay*, from Kingston, Rhode Island, 1884), however, makes it inadvisable to distinguish the common Florida form varietally. A sheet of specimens in the National Herbarium from Bay Co., Florida, with the whole habit and the silky-pubescent achenes of the species but with practically glabrous stem and involucre is, on the other hand, so very different from all the other specimens examined that it merits distinction as a variety.

ASTER CONCOLOR L. var. **devestitus**, var. nov. Stem glabrous; lower leaves sparsely hispidulous especially toward margin, the others glabrous; phyllaries glabrous except for sparse ciliolation, their bases indurate, whitish, the shorter lanceolate or subulate herbaceous tips light green. FLORIDA: In dry sandy open soil, Lynn Haven, Bay Co., 13 Oct. 1921, *C. Billington* 80 (TYPE no. 1,116,195, U. S. Nat. Herb.).—S. F. BLAKE, Bureau of Plant Industry, Washington, D. C.

ON CHANGING THE DIRECTION OF SAP CONDUCTING TISSUES

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AMONG my unpublished records of experiments on chestnut trees are some that may be of interest to others working along similar lines. At this time it is intended to record briefly three experiments undertaken and completed nearly 20 years ago.

EXPERIMENT 1. OBJECT: To ascertain if a chestnut tree (No. 1663-A) could be made to develop a zig-zag grain in the wood by removing portions of the bark. METHOD USED: In 1910 several horizontal grooves a half inch wide were cut through the bark of a small smooth-barked chestnut tree. Each groove extended about two-thirds around the tree. The bark was removed from each groove,